

Report on the Mining Study

Excerpt from the WCIRB Classification and Rating Committee Minutes
September 22, 2021

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Mining Study

1122, Mining – surface – no shafts, tunnels, or drifts – all employees

1123, Mining – underground – with shafts, tunnels or drifts; all employees with exposure to underground mining operations

1124, Mining – underground – surface employees

Executive Summary

Objectives

Employers assigned to Classification 1122, *Mining – surface*, Classification 1123, *Mining – underground – with shafts, tunnels or drifts; all employees with exposure to underground mining operations*, and Classification 1124, *Mining – underground – surface employees*, do not develop sufficient data to produce statistically credible advisory pure premium rates, and exposure in the underground mining classifications in particular has been sharply declining. Consistent with the WCIRB's practice of reviewing classifications with low statistical credibility, the WCIRB studied business operations and the payroll and claim experience of employers currently assigned to Classifications 1122, 1123 and 1124 to determine if the three classifications should continue to be stand-alone classifications or if some or all of the operations contemplated in these classifications should be combined with operations in other classifications.¹

Findings

The key findings of this study include:

1. There is a clear line of demarcation between mining operations at surface mines (Classification 1122) and mining operations at underground mines (Classifications 1123 and 1124). Operations at underground mines are more hazardous than those at surface mines and have higher loss to payroll ratios.
2. Underground mining employers have similar operations, loss to payroll ratios and typical causes of injury as employers assigned to Classification 6251, *Tunneling – all work to completion*. Given that the underground mining industry is declining in California, reclassifying underground mining operations to Classification 6251 would improve its statistical credibility and stabilize the advisory pure premium rate for the classifications.
3. Reclassifying underground mining operations currently assigned to Classifications 1123 and 1124 to Classification 6251 would have minimal impact on the classification relativities for Classifications 6251 and 1124 (+1.1% and +3.3%, respectively). However, the reclassification would lead to a significant drop (-71.3%) in classification relativity for the operations currently assigned to Classification 1123. WCIRB staff does not recommend applying the typical 25% change limitation on year-to-year classification relativity change to the operations assigned to Classification 1123.
4. There is a clear operational distinction between surface mining employers assigned to Classification 1122 and quarry employers assigned to Classification 1624(1), *Quarries*. The loss to payroll ratios for quarry employers were consistently higher than those for surface mining employers over time. The difference in loss to payroll ratios was largely because Classification 1122 had more minor claims that involved temporary disability, while Classification 1624(1) had more severe permanent disability claims. Therefore, the WCIRB does not recommend combining operations in Classification 1122 with those in Classification 1624(1).
5. The Special Industry Classification Procedures for Mining, as detailed in the *California Workers' Compensation Uniform Statistical Reporting Plan—1995* (USRP), are no longer necessary as the

¹ Former Insurance Code section 11733, effective September 15, 1935, required a separate classification to be maintained for underground mining. This law was repealed in 1995.

rules specific to mining are either no longer relevant or are redundant with general rules contained in the USRP.

6. Categorizing Mining as an Industry Group is no longer necessary based on the proposed elimination of Classifications 1123 and 1124, resulting in some mining operations falling outside of this industry grouping and only two mining classifications remaining.

Recommendations

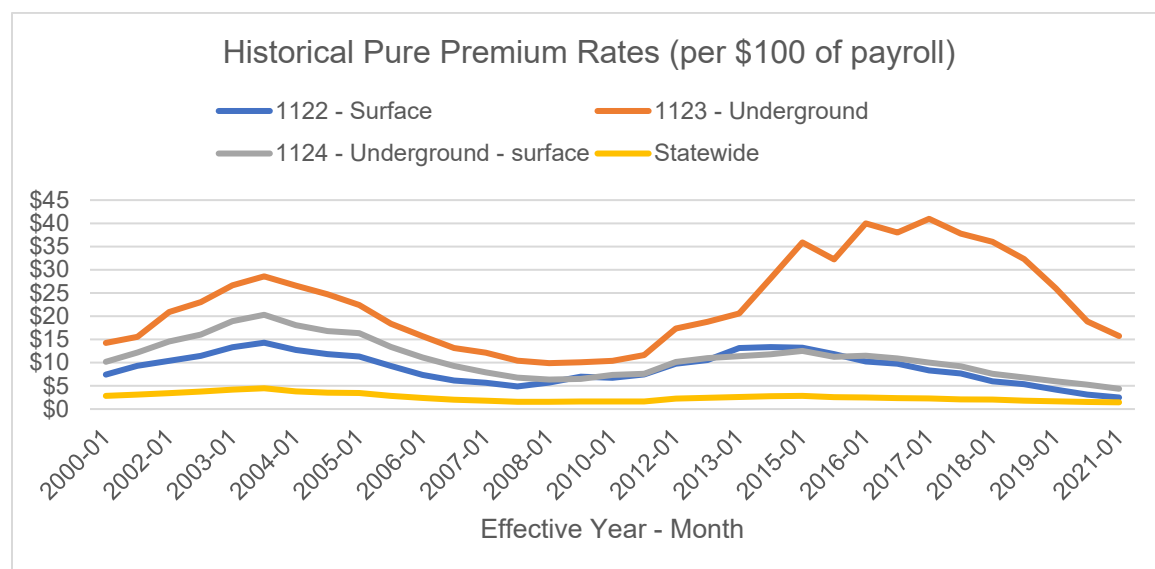
Based on these findings, the WCIRB recommends:

1. Eliminate Classifications 1123, *Mining – underground – with shafts, tunnels or drifts; all employees with exposure to underground mining operations*, and 1124, *Mining – underground – surface employees*, and amend Classification 6251, *Tunneling – all work to completion*, to include both the surface and sub-surface operations of underground mines.
2. Eliminate the Special Industry Classification Procedures for the Mining Industry and the listing of Mining as an Industry Group.

I. Introduction

Employers assigned to Classification 1122, *Mining – surface*, Classification 1123, *Mining – underground – with shafts, tunnels or drifts; all employees with exposure to underground mining operations*, and Classification 1124, *Mining – underground – surface employees*, do not develop sufficient data to produce statistically credible advisory pure premium rates, which can result in undue volatility in the pure premium rates from year to year without significant change in the underlying exposure to workers' compensation losses. The credibility for Classification 1122, *Mining – surface*, is around 0.5 for both indemnity and medical, and for the underground mining classifications it is less than 0.3 for Classification 1123 and around 0.1 for Classification 1124. The payroll in these classifications has also been sharply declining.² The low credibility for Classifications 1123 and 1124, in particular, is due to the number of employers engaged in underground mining operations decreasing. In policy year 2018, the payroll of only 5 employers was reported in Classification 1123 and the payroll of only 3 employers was reported in Classification 1124. The sharp changes in the advisory pure premium rates for these two underground mining classifications are not necessarily related to changes in the underlying exposure level (Figure 1).

Figure 1. Historical Pure Premium Rates



² WCIRB January 1, 2021 Regulatory Filing.

	1/1/2021 Pure Premium Rate (per \$100 of payroll)³	Approximate Credibility
Classification 1122 – Surface Mining	\$2.49	0.5
Classification 1123 – Underground Employees at Underground Mines	\$15.73	0.3
Classification 1124 – Surface Employees at Underground Mines	\$4.37	0.1

The WCIRB studied business operations and the payroll and claim experience of employers currently assigned to Classifications 1122, 1123 and 1124 to determine if the three classifications should continue to be stand-alone classifications or if some or all of the operations contemplated in these classifications should be combined with the operations in other existing classifications. In this regard, the WCIRB evaluated the scope of several classifications that have relatively similar operations to Classifications 1122, 1123 and 1124.

II. Analysis Approach

The WCIRB analyzed business operations and payroll and claim experience of employers operating underground and surface mining using both qualitative and quantitative data from a variety of sources.

Classification Inspection Reports: The WCIRB reviewed Classification Inspection Reports of employers with payroll reported in Classifications 1122, 1123 and 1124 to better understand the business operations of mining employers and employee responsibilities.

Industry Outreach: The WCIRB contacted members of the industry, including employers doing business in the mining industry as well as insurers that underwrite significant components of this industry, to gain insight into the operational characteristics of mining.

Unit Statistical Reports: The WCIRB analyzed the historical Unit Statistical Report (USR) data reported for Classifications 1122, 1123 and 1124, including employers' payroll and loss experience and injury characteristics of claims, between policy years 1993 and 2018. Data is at the latest USR report level. Losses were limited to \$500,000 per claim to minimize large swings in the loss to payroll ratios over time that are often seen in small classifications.

Other Jurisdictions: To supplement the limited mining data in California, the WCIRB reviewed the mining classifications in several other jurisdictions where mining operations are larger.⁴

Similar Classifications: Using the same data sources and methodology used in the review of Classifications 1122, 1123 and 1124, the WCIRB reviewed several classifications that have relatively similar operations to mining, included those related to tunneling and quarrying operations.

Classification Relativity Data: Classification relativities submitted as part of the WCIRB's January 1, 2021 Regulatory Filing were used to analyze the impact of the potential reclassification of Classification 1122, 1123 and 1124 employers on both the employers that are recommended to be included in other existing classifications and the employers assigned to the destination classifications.

Mine Safety and Health Administration (MSHA): The WCIRB analyzed U.S. mining industry data from the MSHA to compare the industry trend in California to other states.

³ The California Department of Insurance's decision on the WCIRB January 1, 2021 Pure Premium Rate Filing.

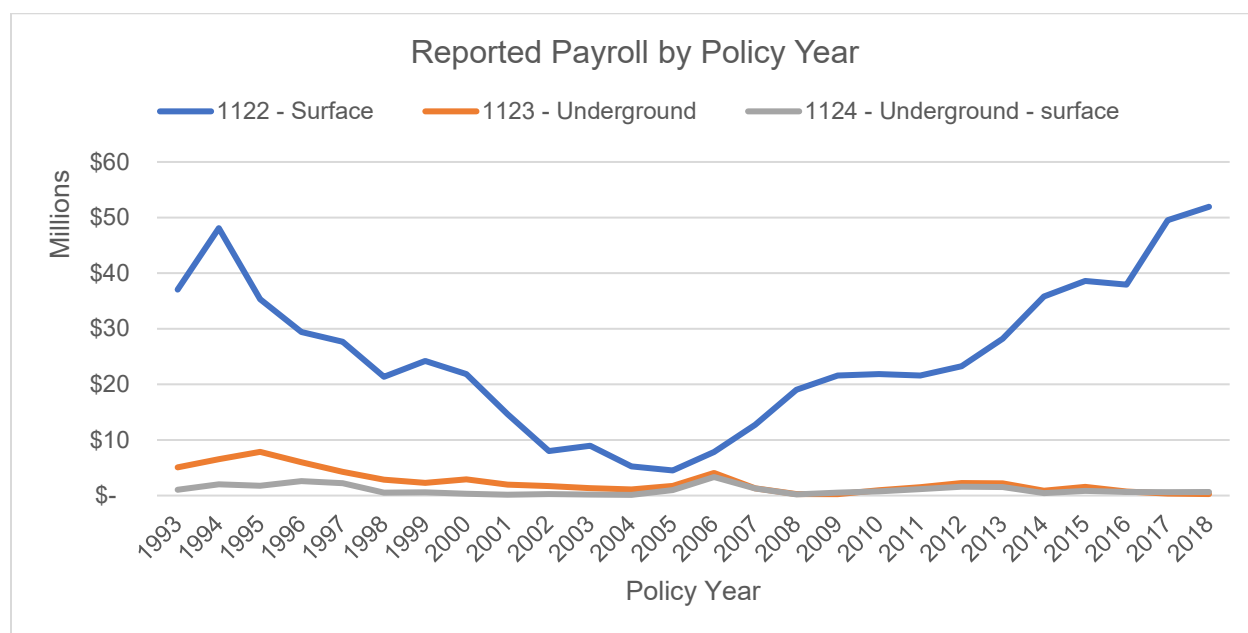
⁴ The jurisdictions reviewed include Missouri, Colorado, Michigan, Wisconsin, Minnesota, Kentucky, West Virginia, Texas, New York, Pennsylvania and Delaware. These jurisdictions were selected for review because of their relatively large mining industries.

III. Analysis Results

1. Comparison of Mining Classifications 1122, 1123 and 1124

Mining operations assigned to Classifications 1122, 1123 and 1124 report a small fraction of the statewide total payroll, about 0.01% in policy year 2018. Payroll size also varied across these classifications. Between policy years 1993 and 2018, the payroll of 664 surface mining employers was reported in Classification 1122, accounting for 88% of the payroll for the three mining classifications. Of the remaining 12%, underground mining operations assigned to Classification 1123 had a larger payroll than that reported in Classification 1124 but also had disproportionally more losses, indicating that most hazards in underground mines came from employees who worked underground. In addition, payroll trajectories of surface mines and underground mines were different. Figure 2 shows that payroll reported in Classification 1122 has grown continuously since 2005, yet payroll reported from the underground mining classifications has declined and remained small.

Figure 2. Reported Payroll in the Three Mining Classifications by Policy Year



- **Distinct Operations between Surface Mines and Underground Mines**

Classification 1122 applies to all surface mining operations that do not have any underground work, while both Classifications 1123 and 1124 apply to the operation of underground mines. Classifications 1123 and 1124 are also companion classifications.⁵ Specifically, Classification 1123 applies to employees of underground mines who spend any portion of their time underground, while Classification 1124 applies to employees who work for employers engaged in underground extraction but whose work is exclusively on the surface.

Surface Mines: Surface mining operations assigned to Classification 1122 include the surface extraction of ores and minerals, such as iron ore, gold, borax and gypsum. The classification includes all activities involved in the construction or operation of the surface mines, including the installation, operation or maintenance of machinery or equipment and blasting when performed by the mine operator. This classification also includes mining engineers engaged in geophysical exploration, surveying and mapping of sites.

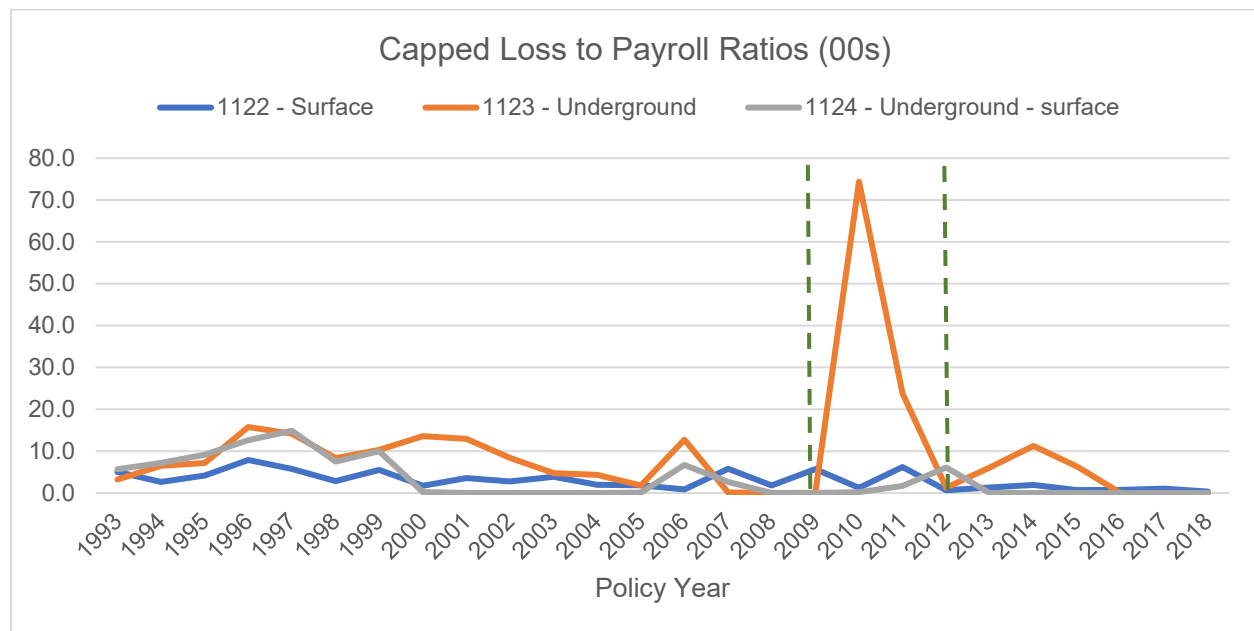
⁵ The USRP at Part 3, Section II, Rule 4, defines Companion Classifications as: “[t]wo classifications that together describe the operations that normally prevail in a business. Businesses that are classified using related companion classifications, as identified by the classification footnote, shall constitute a single enterprise.”

Underground Mines: Underground mining operations assigned to Classifications 1123 and 1124 include the subsurface extraction of ores and minerals that are similar to those extracted by the surface mining operations, except that most of the active underground mines in California are engaged in the extraction of gold.⁶ While the surface operations of underground mines are similar to the operations assigned to Classification 1122, the underground crew engages in activities, such as drilling shafts or tunnels, erecting supports and constructing underground tramways, that often involve a heightened exposure to hazards. Due to the limited number of operating mines in California, the WCIRB reviewed workplace injury statistics published by the MSHA, which indicated that the 2019 non-fatal injury rate per 100 full-time equivalent underground mining workers in the U.S. was more than twice that for surface mining workers.⁷

- **Loss to Payroll Experience of Underground Mining and Surface Mining**

Based on USR data between 1993 and 2018, the loss to payroll ratio for Classification 1122 surface mines was generally lower than the loss to payroll ratios for Classifications 1123 and 1124 underground mines (Figure 3). The 26-year weighted average loss to payroll ratio for operating surface mines (\$2.8 per \$100 of payroll) is significantly lower than that for operating underground mines (\$9.7 per \$100 of payroll for Classification 1123 and \$5.7 per \$100 payroll for Classification 1124). The loss to payroll ratios for underground mining employers were also more volatile due to the relatively low payroll of the underground mining classifications and the propensity for large claims.

Figure 3. Historical Loss to Payroll Ratios⁸ Comparing Classifications 1122, 1123 and 1124



⁶ [California Department of Conservation](#). In 2019, the California Department of Conservation reported seven active underground mines, six of them engaged in the extraction of gold.

⁷ The National Institute for Occupational Safety and Health. <https://www.cdc.gov/niosh/mining/statistics/default.html>.

⁸ Loss to payroll ratios before policy year 2018 were calculated using the losses and payroll reported at the second Report Level (RL). For policy year 2018, losses and payroll reported at the first RL were used to calculate the loss to payroll ratio as it was the latest data available for 2018 policies. The same methodology was used for Figures 4 and 8.

	Loss to Payroll Ratio (00s) (26-Year Weighted Average)⁹
Classification 1122, Surface Mining	2.8
Classification 1123, Underground Employees at Underground Mines	9.7 (8.3 if excl. PYs 2010-2011)
Classification 1124, Surface Employees at Underground Mines	5.7

In summary, employers operating underground mines and surface mines have significantly different business operations, underlying hazards and loss experience. The WCIRB recommends continuing to separately classify the operations of surface-only mines and underground mines. However, since the credibility of the three mining classifications are low, especially Classifications 1123 and 1124, the WCIRB explored the potential of reclassifying these operations to other existing classifications. Also, given that underground mining Classifications 1123 and 1124 are companion classifications with moderately similar loss to payroll ratios and little payroll reported in either classification, combining them into a single classification would increase the credibility of the combined classification and simplify the classification procedure for underground mines while decreasing the risk of misassigned payroll or claims.

2. Potential Reclassification of the Combined Operations Assigned to Classifications 1123 and 1124

Based on the potential similarity of core operations, the WCIRB identified Classification 6251, *Tunneling – all work to completion – including lining*, as a potential classification to which the underground operations currently assigned to Classifications 1123 and 1124 could be reclassified.

- **Underground Mining and Tunneling Operations**

Classification 6251, *Tunneling*, applies to all surface and subsurface operations integral to the construction of tunnels and caves. These operations include digging tunnels to blueprint specification and subsequently reinforcing the tunnels through the erection of structural linings. Similarly, Classifications 1123 and 1124 apply to all surface and subsurface operations integral to the construction and operation of underground mines. As noted in the comparison between operations contemplated under Classification 1122 and Classifications 1123 and 1124, the construction of underground mines involves construction activities similar to tunneling. Both tunneling and underground mining require a combination of surface and subsurface operations – with some employees working exclusively at the surface while others work underground. Given the similarity in work processes and job scope, the relevant operational comparison is between the combined (surface and subsurface) operations described by Classifications 1123 and 1124 and the surface and subsurface operations described by Classification 6251.

While the objective of an underground mine is to extract ores and minerals and the objective of a tunneling operation is strictly to build an underground passageway, both mining and tunneling operations focus on the specialty area of subsurface construction. Underground mining and tunneling operations require comparable equipment, work processes, engineering and safety protocols.¹⁰ For example, essential to both underground mining and tunneling is the use of excavation or boring machinery to remove subsurface dirt, rock and stone. Handheld tools such as jack hammers may also be used. In addition, as necessary, explosives are used to loosen stone or mineral deposits. Conveyor systems are installed in the mine or tunnel to move excavated debris to the surface for processing or disposal. Finally, structural wood or steel framing is built to support the mine or tunnel. Classification 1123 is comprised of employers that extract minerals and ores from underground deposits using mining techniques. It is common to find mines comprised of multiple tunnels on different levels that are constructed to follow the deposit.

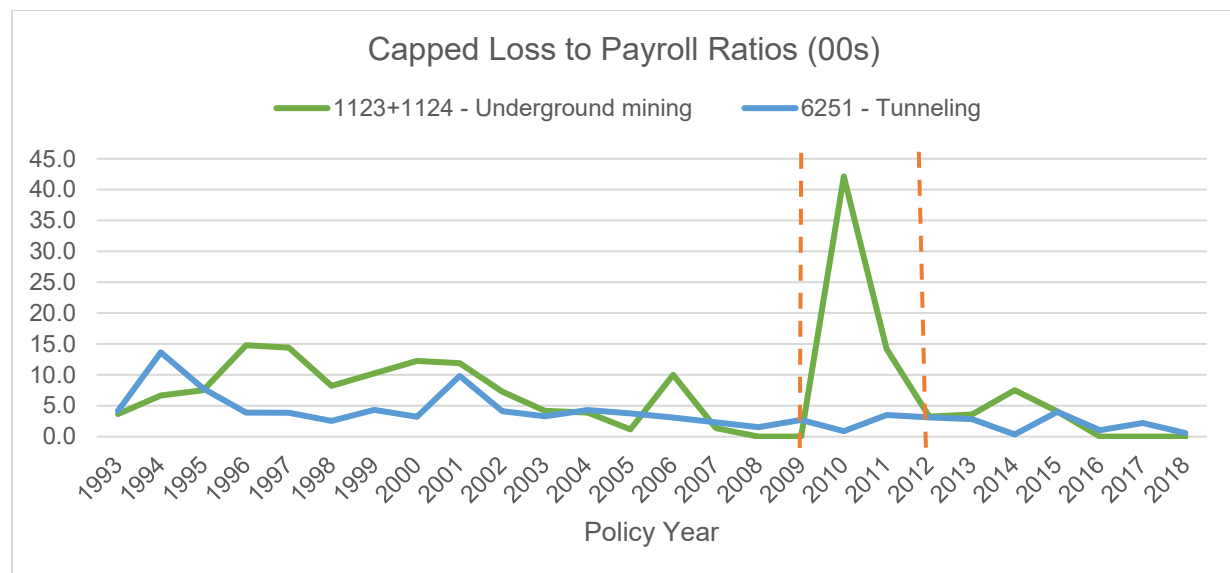
⁹ The 26-year weighted average loss to payroll ratio was calculated as the aggregate losses over the 26-year period divided by the aggregate payroll during the same period.

¹⁰ California Department of Industrial Relations maintains a Mining and Tunneling Unit that administers all safety regulations and conducts job site inspections of California's mines, tunnels and quarries.

In summary, the nature of tunneling operations is similar to the combined surface and subsurface operations of underground mines contemplated under Classifications 1123 and 1124.

- Payroll and Claim Experience of Underground Mining Compared to Tunneling Operations**
 In addition to similar operational characteristics, the loss to payroll experience of employers assigned to Classifications 1123 and 1124 is relatively similar to that of tunneling employers. As shown in Figure 4, the historical loss to payroll ratios for underground mining are more volatile than those for tunneling, largely due to the historically small underground mining industry in California compared to other states and the propensity for occasionally large claims (Figure 5).¹¹ In addition, the average number of working hours among surface and underground employees at underground mines has declined by 82% in California since 2013 (Figure 6).¹² After excluding the two years that had heavy losses, the weighted average loss to payroll ratio for underground mining employers between policy years 2012 and 2018 (\$3.1 per \$100 of payroll) was relatively similar to the weighted average for tunneling employers (\$2.0 per \$100 of payroll).

Figure 4. Historical Loss to Payroll Ratios Comparing Classifications 1123, 1124 and 6251



	Loss to Payroll Ratio (00s) (PYs 1993-2009) ¹³	Loss to Payroll Ratio (00s) (PYs 2012-2018) ¹⁴
Classifications 1123 and 1124 Combined	8.6	3.1
Classification 6251	3.7	2.0

¹¹ Data is from the MSHA.

¹² Data is from the MSHA.

¹³ The weighted average loss to payroll ratio was calculated as the aggregate losses over the policy year period from 1993 to 2009 divided by the aggregate payroll during the same period.

¹⁴ The weighted average loss to payroll ratio was calculated as the aggregate losses over the policy year period from 2012 to 2018 divided by the aggregate payroll during the same period.

Figure 5. Average Number of Hours Worked¹⁵ per State for Underground Mines

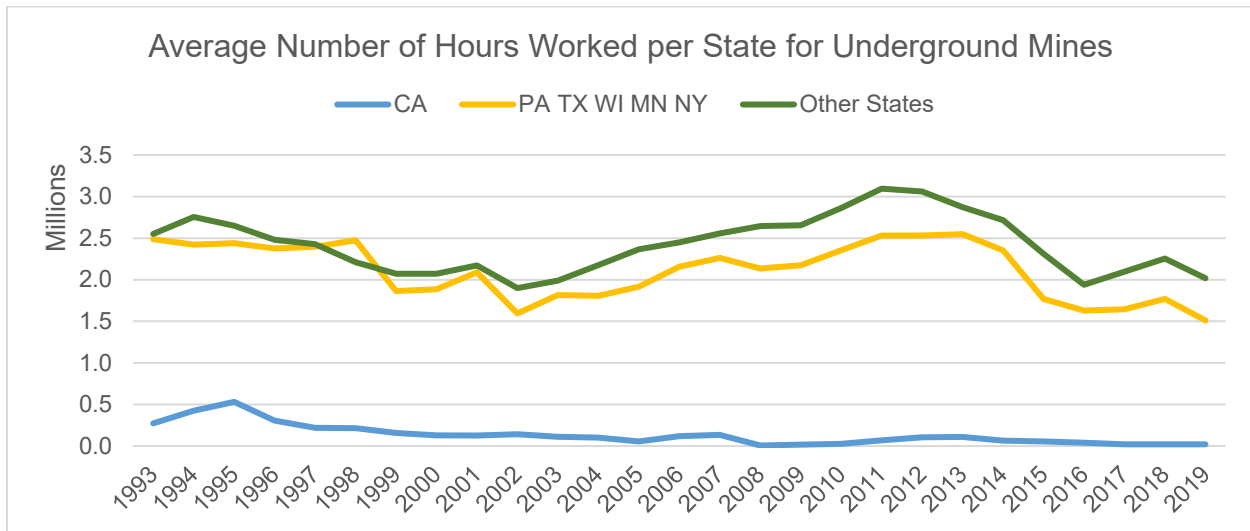
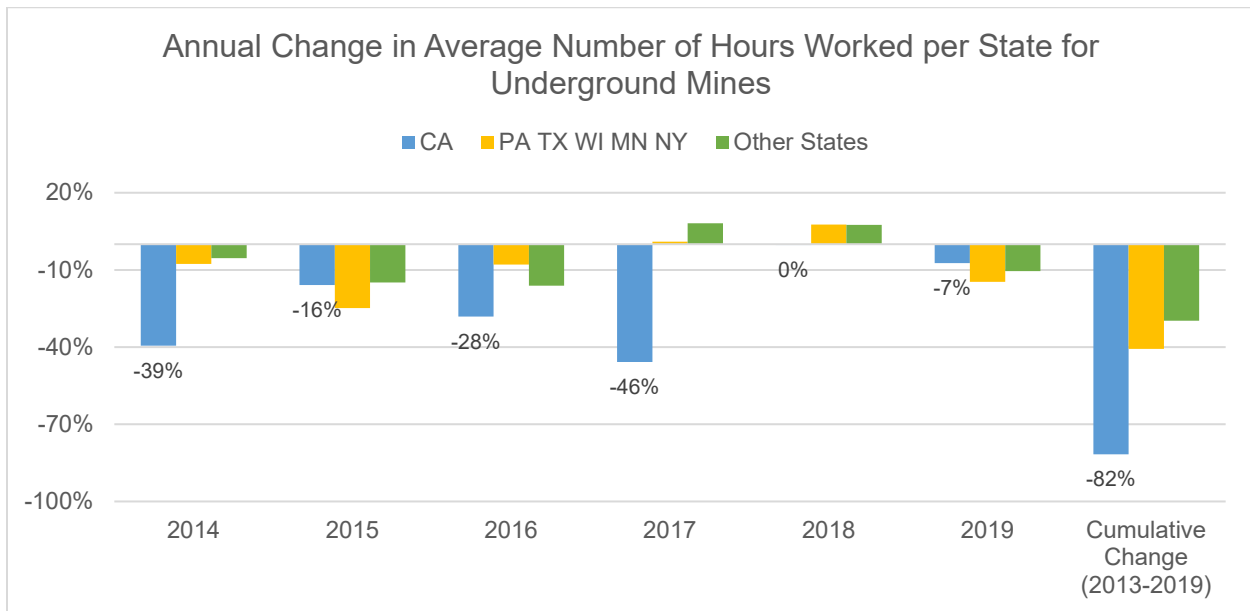


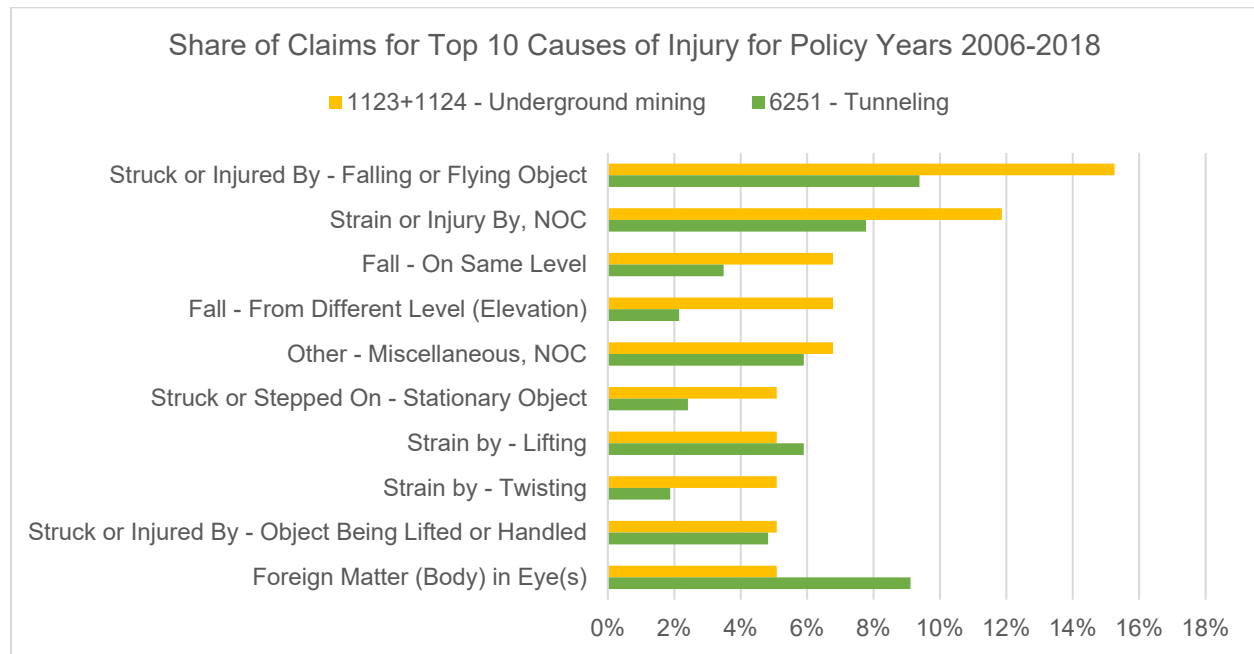
Figure 6. Year-to-Year Percentage Change in Average Number of Hours Worked at Underground Mines in California Compared to the Other States



The WCIRB also analyzed the causes of injury between underground mining operations and tunneling operations. The leading cause of injury for the underground mining operations was being struck or injured by falling or flying objects, which was also the leading cause of injury for tunneling operations. Strain and fall injuries were also common causes of injury in both operations (Figure 7).

¹⁵ Includes both surface employees and underground employees at underground mines. These states were selected because they have relatively large mining industries.

Figure 7. Share of Claims for Top 10 Causes of Injury for Policy Years 2006 - 2018¹⁶



The WCIRB's analysis indicates that underground mining employers have similar business operations and loss experience as the employers assigned to Classification 6251. Therefore, the WCIRB recommends amending Classification 6251 to include both surface and underground operations performed at underground mines. The impact of this recommendation on employers currently assigned to Classifications 1123, 1124 and 6251 is shown in the Impact Analysis Section of this report.

3. Potential Reclassification of the Operations Assigned to Classification 1122

Based on the potential similarity of core operations, the WCIRB identified Classification 1624(1), *Quarries – including all employees engaged in installation of machinery and construction, repair and maintenance of all buildings, structures or equipment*, as a potential classification to which the surface mining operations currently assigned to Classification 1122 could be reclassified.

- **Comparison of Surface Mining and Quarrying Operations**

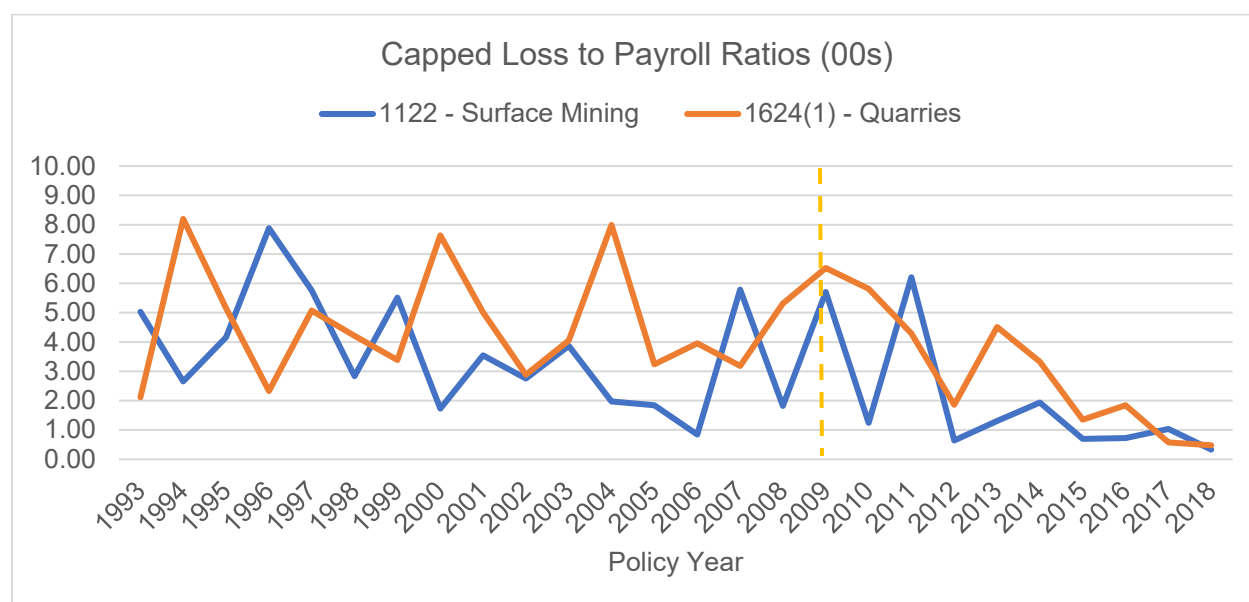
Whereas Classification 1624(1) applies to open quarries engaged in the extraction of rock, stone, sand and gravel, Classification 1122 applies to the extraction of different materials, such as ores and minerals. In addition, quarrying operations typically include cutting stones extracted at quarry locations or hauling material from the quarry to a stone crusher operated by the quarry. Based on a review of the WCIRB inspection reports for employers assigned to Classifications 1122 and 1624, the WCIRB found no overlap in operations between employers engaged in surface mining and those engaged in quarrying, indicating that the line of differentiation between mining and quarrying is clear and the potential for misclassification is low.

- **Comparison of Surface Mining and Quarrying's Loss and Claim Experience**

The loss to payroll ratios for Classification 1624(1) were generally higher than those for Classification 1122, and the difference between the two classifications grew over time except for the most recent two years (Figure 8). The most recent 10-year weighted average loss to payroll ratio for Classification 1624(1) was almost twice as high as that of Classification 1122. The higher loss to payroll ratios for Classification 1624(1) were mostly driven by more severe permanent disability claims and claims involving fall injuries, while Classification 1122 had more minor temporary disability claims and claims involving strain injuries (Figures 9 and 10).

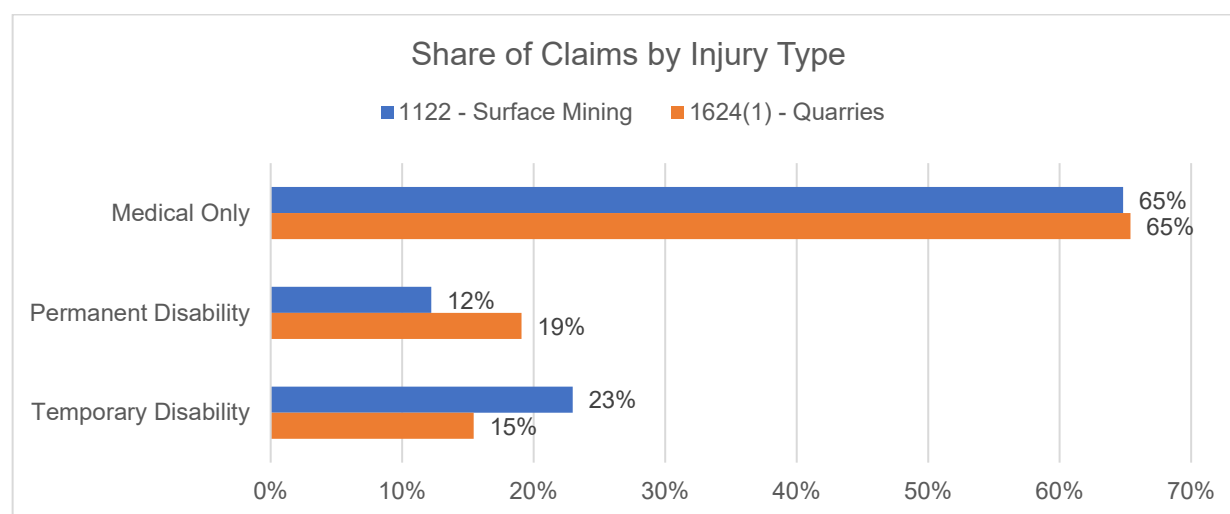
¹⁶ Policy year 2006 is the earliest year that the WCIRB has detailed information at the claim level.

Figure 8. Historical Loss to Payroll Ratios Comparing Classifications 1122 and 1624(1)



	Loss to Payroll Ratio (00s) (10-Year Weighted Average) ¹⁷	Loss to Payroll Ratio (00s) (26-Year Weighted Average) ¹⁸
Classification 1122	1.6	2.8
Classification 1624(1)	2.9	3.7

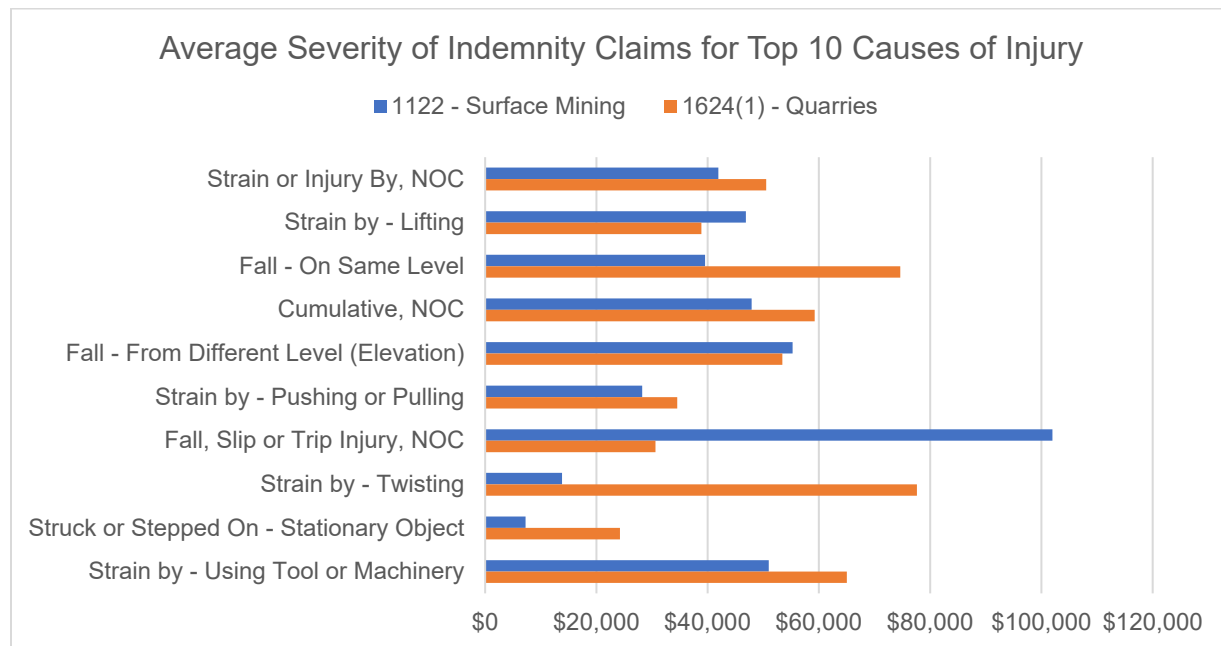
Figure 9. Share of Claims by Injury Type for Policy Years 2006-2018



¹⁷ The 10-year weighted average loss to payroll ratio was calculated as the aggregate losses over the 10-year period divided by the aggregate payroll during the same period.

¹⁸ The 26-year weighted average loss to payroll ratio was calculated as the aggregate losses over the 26-year period divided by the aggregate payroll during the same period.

Figure 10. Average Severity for Indemnity Claims Ranked by Top 10 Causes of Injury for Policy Years 2006-2018



One significant difference between operations assignable to Classification 1624(1) and those assignable to Classification 1122 is that the ore and mineral mining under Classification 1122 does not include stone hauling and cutting operations that are typical to a quarry. The average claim severity for typical injuries related to stone hauling and cutting operations, such as injuries from being struck by falling objects and strains by twisting,¹⁹ is also higher in Classification 1624(1) than in Classification 1122.

The business operations, underlying hazards and claim experience of employers assigned to surface mining are different from operations assigned to quarrying. While the credibility of Classification 1122 is relatively low, unlike the declining underground mining industry in California, the payroll for surface mining employers has increased over the past few years. Therefore, the WCIRB does not recommend combining surface mining employers with Classification 1624(1) and recommends that the operations of surface mining employers continue to be assigned to Classification 1122.

4. Special Industry Classification Procedures for the Mining Industry

For the reasons detailed below, the USRP's *Special Industry Classification Procedures* for Mining (Procedures)²⁰ are no longer necessary as these rules are either no longer relevant or are redundant with general rules contained in the USRP.

- Rule 5.a., *Payroll Basis*:
 - Directs that “[n]o reduction in payroll shall be made on account of powder, explosives, detonator, blacksmithing tools, care of lamps or other materials or services furnished by the operators”. This issue is already addressed in Appendix II – Payroll/Remuneration Table, *Tool or Equipment Expense Reimbursement*, of the USRP in that actual or documented expenses for tools or equipment not normally provided by the employee should not be included as payroll.

¹⁹ [International Hazard Datasheets on Occupation – Stone Cutter](#). International Labour Organization. 2009.

²⁰ See Part 3, *Standard Classification System*, Section IV, *Special Industry Classification Procedures*, Rule 5, *Mining*, of the *California Workers' Compensation Uniform Statistical Reporting Plan—1995*.

- Establishes a minimum wage of not less than \$12 per eight-hour shift. This per shift minimum is no longer necessary as California wage and hour laws already establish minimum wages for the mining industry exceeding this amount. For employers with 25 or fewer employees, the minimum hourly wage is \$13 effective January 1, 2021 and will increase to \$14 effective January 1, 2022.²¹ Employers with 26 or more employees are subject to minimum hourly wages that are one dollar higher. As such, the USRP's \$12 per shift requirement is obsolete.
- Directs that the market value of lodging shall be included in payroll. The treatment of meals and lodging for the mining industry no longer warrants treatment that differs from that directed by Part 3, Section V, *Payroll-Remuneration*, Rule 1.b., *Meals and Lodging*.
- Rule 5.b., *Standard Exceptions*, directs the treatment of clerical office employees and is duplicative of Part 3, Section III, Rule 4, *Standard Exceptions*.
- Rule 5.c., *Definition of "Surface Employees,"* is no longer relevant as all employees of underground mines and surface mines will be assigned to a single classification containing specific instructions regarding operations that shall be separately classified.
- Rule 5.d., *Shops*, is no longer needed as the proposed classification provides specific instructions regarding the scope of operations included.

IV. Impact Analysis

The WCIRB evaluated the impact of reclassifying underground mining employers to the tunneling classification. Classification relativities for Classifications 1123, 1124 and 6251 are included in Appendix III.

1. Impact on Employers in Classifications 6251

Table 1 shows that the selected loss to payroll ratio for Classification 6251 would increase by only 1.1% after the inclusion of underground mining employers.

Table 1. Changes in the Selected (Unlimited) Loss to Payroll Ratio for Classifications 6251 Under Proposed Recommendation

Classification 6251 (A)	Classifications 1123, 1124 and 6251 Combined (B)	% Difference (B/A-1)
3.322	3.357	+1.1%

2. Impact on Employers that are Currently Assigned to Classifications 1123 and 1124

The WCIRB also analyzed the impact on underground mining employers currently assigned to Classifications 1123 and 1124. As shown in Table 2, after being combined with Classification 6251, underground mining operations performed by underground employees would have a significant drop in the selected loss to payroll ratio (-71.3%), while underground mining operations performed by surface employees working exclusively at underground mines, a much smaller group than the underground crew, would have a slight increase in the selected loss to payroll ratio (+3.3%).²²

²¹ Industrial Welfare Commission Order No. 16-2001.

²² Given that Classifications 1123 and 1124 are companion classifications, the actual impact to employers whose payroll is reported to both Classifications 1123 and 1124 would be dependent on the relative portion of their payroll split between Classifications 1123 and 1124.

Table 2. Changes in the Selected (Unlimited) Loss to Payroll Ratio for Employers that are Currently Assigned to Classifications 1123 and 1124 Under Proposed Recommendation

Classification 1123	Classifications 1123, 1124 and 6251 Combined	% Difference
11.699	3.357	-71.3% ²³
Classification 1124	Classifications 1123, 1124 and 6251 Combined	% Difference
3.249	3.357	+3.3%

V. Findings

Based on this review, the WCIRB has determined:

1. There is a clear line of demarcation between mining operations at surface mines (Classification 1122) and mining operations at underground mines (Classifications 1123 and 1124). Operations at underground mines are more hazardous than those at surface mines and have higher loss to payroll ratios.
2. Underground mining employers have similar operations, loss to payroll ratios and typical causes of injury as employers assigned to Classification 6251, *Tunneling – all work to completion*. Given that the underground mining industry is declining in California, reclassifying underground mining operations to Classification 6251 would improve its statistical credibility and stabilize the advisory pure premium rate for the classifications.
3. Reclassifying underground mining operations currently assigned to Classifications 1123 and 1124 to Classification 6251 would have minimal impact on the classification relativities for Classifications 6251 and 1124 (+1.1% and +3.3%, respectively). However, the reclassification would lead to a significant drop (-71.3%) in classification relativity for the operations currently assigned to Classification 1123. WCIRB staff does not recommend applying the typical 25% change limitation on year-to-year classification relativity change to the operations assigned to Classification 1123.
4. There is a clear operational distinction between surface mining employers assigned to Classification 1122 and quarry employers assigned to Classification 1624(1), *Quarries*. The loss to payroll ratios for quarry employers were consistently higher than those for surface mining employers over time. The difference in loss to payroll ratios was largely because Classification 1122 had more minor claims that involved temporary disability, while Classification 1624(1) had more severe permanent disability claims. Therefore, the WCIRB does not recommend combining operations in Classification 1122 with those in Classification 1624(1).
5. The Special Industry Classification Procedures for Mining, as detailed in the *California Workers' Compensation Uniform Statistical Reporting Plan—1995* (USRP), are no longer necessary as the rules specific to mining are either no longer relevant or are redundant with general rules contained in the USRP.

²³ The WCIRB recommends that the typical 25% limitation on year-to-year classification relativity changes not apply to the underground mining employers because (1) the impact on the underground employees is a reduction in the classification relativity, which is consistent with their historical loss experience, (2) limiting the relativity change for Classification 1123 to a 25% change would preclude the elimination of that classification for several years until such time as the relativity for that classification is relatively consistent with that of the proposed combined classification and (3) underground mining employers in Classification 1123 may also have payroll in Classification 1124 so the impact of the proposed change on the average relativity will be somewhat muted by the small indicated increase in the relativity shown for Classification 1124.

6. Categorizing Mining as an Industry Group is no longer necessary based on the proposed elimination of Classifications 1123 and 1124, resulting in some mining operations falling outside of this industry grouping, and only two mining classifications remaining.

VI. Recommendations

Based on these findings, the WCIRB recommends:

1. Eliminate Classifications 1123, *Mining – underground – with shafts, tunnels or drifts; all employees with exposure to underground mining operations*, and 1124, *Mining – underground – surface employees*, and amend Classification 6251, *Tunneling – all work to completion*, to include both the surface and sub-surface operations of underground mines.
2. Eliminate the Special Industry Classification Procedures for the Mining Industry and the listing of Mining as an Industry Group.

Appendix I – History

Following is a timeline of significant changes to the scope and application of mining Classifications 1122, 1123 and 1124:

- **1934:** Classifications 1122, *Mining-surface-no shafts, tunnels or drifts-all employees*, 1123, *Mining-Underground-with shafts, tunnels or drifts; Underground employees*, and 1124, *Mining-Underground-with shafts, tunnels or drifts; Surface employees (excluding ore milling)*²⁴ were established to apply to surface mines, underground mine operations and surface operations at underground mines. Prior to 1934, multiple classifications applied to mining based on the extracted product. The prior classifications, 1164, 1120 and 1121, were eliminated.
- **1973:** Following a study conducted by the WCIRB, the experience of Classifications 1122 and 1624 was combined for ratemaking purposes. In addition, the two quarry classifications (1624 and 1625) were combined into a single classification – Classification 1624 – and Classification 1605, *Excavation – rock*, was amended to Classification 1624(2), an alternate wording to Classification 1624.
- **2013:** Following a study conducted by the WCIRB, the combination of experience for ratemaking purposes of Classifications 1122 and 1624 was discontinued.

The following is a timeline for the significant changes to the scope and application of tunneling Classification 6251, *Tunneling — all work to completion — including lining*:

- **1927:** Classification 5023, *Tunnel Lining*, was eliminated and constituents were combined with Classification 6251, *Tunneling*, which was amended to include all work to completion, including lining.
- **1966:** Classification 6260, *Tunneling—Pneumatic*, was established for compressed air tunneling.
- **1976:** The Classification and Rating Committee was advised that there had been no payroll developed under Classification 6260 since 1971 and that at that time there was no indication of any new pneumatic tunneling operations being conducted in California. As a result, this classification was eliminated.

²⁴ The classification wording reflected here is the original wording, the wording and footnotes have since been updated and enhanced.

Appendix II – Other Jurisdictions

The WCIRB reviewed how other jurisdictions classify mining operations. These jurisdictions include the states that have relatively large mining industries.²⁵

In most of the leading National Council on Compensation Insurance, Inc. (NCCI) mining industry states,²⁶ the NCCI separately classifies coal mine and non-coal mine operations. Classifications 1016, *Coal Mining NOC & Drivers*, and 1164, *Mining NOC – Not Coal – Underground & Drivers*, are for surface and underground mining operations performed at underground coal mines and underground mines of materials other than coal, respectively. Surface operations at surface coal mines and non-coal mines that do not contemplate mining with shafts, tunnels or drifts are assigned to Classifications 1005, *Coal Mining – Surface & Drivers*, and 1165, *Mining NOC – Not Coal – Surface & Drivers*, respectively. One exception is Texas where NCCI classifies all mining operations as Classification 1165, *Coal Mining & Drivers*. For those states that have separate classifications for operations at surface mines and underground mines, the rates for classifications involving operations at underground mines are significantly higher than those for surface mines.

The Minnesota Workers' Compensation Insurers Association (MWCIA) and Wisconsin Compensation Rating Bureau (WCRB) classify surface and underground mining operations at underground mines as Classification 1164, *Mining NOC Not Coal Underground & Drivers*, and surface mining operations at surface mines as Classification 1165, *Mining NOC Not Coal Surface & Drivers*. Similarly, rates for operations at underground mines are higher than those for the surface mines in these two states.

The Pennsylvania Compensation Rating Bureaus (PCRB) classifies underground mining operations and surface mining operations as Classifications 025, *Mining – Underground*, and 055, *Sand, Gravel or Slag Excavation – Including Crushing*, respectively. The Delaware Compensation Rating Bureaus (DCRB) classifies surface mining as Classification 055, *Sand, Gravel or Slag Excavation – Including Crushing*. Classification 055 used by both PCRB and DCRB includes quarrying operations in the same classification along with the surface mining operations. The Compensation Advisory Organization of Michigan (CAOM) classifies underground mining operations as Classification 1164, *Mining – NOC – Underground – Not Coal*, and surface mining operations as Classification 1624, *Stone Crushing*, which includes both surface mining operations and quarrying operations. Similarly, the New York Compensation Insurance Rating Board (NYCIRB) classifies underground mining operations as Classification 1170, *Mining – NOC – With Shafts, Tunnels or Drifts*, and surface mining operations as Classification 1624, *Quarry – NOC & Drivers*, which includes quarrying operations as well.

All of the leading states in the mining industry use separate classifications for tunneling operations and the aforementioned leading NCCI mining industry states, MWCIA, and WCRB use separate classifications for quarrying operations. These classifications are administered similarly to how the WCIRB administers Classifications 6251 and 1624.

²⁵ The leading states in the mining industry include Missouri, Colorado, Michigan, Wisconsin, Minnesota, Kentucky, West Virginia, Texas, New York, Pennsylvania and Delaware. Mining industry data is from the MSHA.

²⁶ The leading NCCI states in the mining industry include Missouri, Colorado, Kentucky, West Virginia and Texas.

Appendix III – Classification Relativities²⁷

Table 1: Classification 1122 – Classification Relativity at Policy Year 2021 Level

Policy Year	Adjusted Payroll	Adjusted Indemnity Losses	Adjusted Medical Losses	Adjusted Total Losses	Adjusted Loss to Payroll Ratio (00s)
2013	28,394,628	110,891	62,427	173,318	0.610
2014	36,063,931	458,586	389,361	847,947	2.351
2015	38,788,696	170,689	159,805	330,494	0.852
2016	38,049,746	213,172	131,648	344,820	0.906
2017	49,536,734	234,572	388,165	622,737	1.257
Total	190,833,736	1,187,910	1,131,406	2,319,315	

Adjusted Loss to Payroll Ratio 1.215
 Selected Loss to Payroll Ratio 1.862

Credibility	
Indemnity	Medical
0.53	0.46

Table 2: Classification 1123 – Classification Relativity at Policy Year 2021 Level

Policy Year	Adjusted Payroll	Adjusted Indemnity Losses	Adjusted Medical Losses	Adjusted Total Losses	Adjusted Loss to Payroll Ratio (00s)
2013	2,217,026	117,330	28,876	146,206	6.595
2014	884,637	30,855	52,893	83,748	9.467
2015	1,597,140	74,659	16,730	91,389	5.722
2016	750,592	0	0	0	0
2017	346,671	0	0	0	0
Total	5,796,067	222,845	98,499	321,343	

Adjusted Loss to Payroll Ratio 5.544
 Selected Loss to Payroll Ratio 11.699

Credibility	
Indemnity	Medical
0.29	0.22

²⁷ WCIRB January 1, 2021 Regulatory Filing.

Table 3: Classification 1124 – Classification Relativity at Policy Year 2021 Level

Policy Year	Adjusted Payroll	Adjusted Indemnity Losses	Adjusted Medical Losses	Adjusted Total Losses	Adjusted Loss to Payroll Ratio (00s)
2013	1,565,618	0	0	0	0
2014	428,291	0	0	0	0
2015	857,874	0	235	235	0.027
2016	640,593	0	0	0	0
2017	617,050	0	0	0	0
Total	4,109,426	0	235	235	

Adjusted Loss to Payroll Ratio 0.006
 Selected Loss to Payroll Ratio 3.249

Credibility	
Indemnity	Medical
0.15	0.12

Table 4: Classification 6251 – Classification Relativity at Policy Year 2021 Level

Policy Year	Adjusted Payroll	Adjusted Indemnity Losses	Adjusted Medical Losses	Adjusted Total Losses	Adjusted Loss to Payroll Ratio (00s)
2013	18,589,607	394,626	367,415	762,041	4.099
2014	16,629,716	29,889	25,542	55,431	0.333
2015	21,226,715	608,084	255,869	863,953	4.070
2016	26,121,776	168,308	170,279	338,587	1.296
2017	28,416,801	334,325	332,556	666,881	2.347
Total	110,984,615	1,535,232	1,151,660	2,686,892	

Adjusted Loss to Payroll Ratio 2.421
 Selected Loss to Payroll Ratio 3.322

Credibility	
Indemnity	Medical
0.54	0.43

Recommendation

Eliminate Section IV, *Special Industry Classification Procedures*, Rule 5, *Mining*, as these procedures are no longer necessary because the rules specific to mining are either no longer relevant or are redundant with general rules contained in the USRP.

PROPOSED

Section IV – Special Industry Classification Procedures

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5. Mining

a. Payroll Basis

~~No reduction in payroll shall be made on account of powder, explosives, detonator, blacksmithing tools, care of lamps or other materials or services furnished by the operators. Where employees work on the basis of a share in the future profits, their earnings must be included upon a definite agreed wage basis, which wage basis in no event shall be less than \$12.00 per shift of eight (8) hours per employee. Where the actual remuneration is less than \$12.00 per shift of eight (8) hours per employee, a wage of not less than \$12.00 per shift of eight (8) hours per employee must be used.~~

~~Notwithstanding any other provisions contained herein, when lodging is provided by the employer, the market value of such lodging to the employee shall be included in payroll.~~

b. Standard Exceptions

~~Draftspersons engaged exclusively within the office of such work and Clerical Office Employees engaged exclusively in keeping the books and records shall be treated as Standard Exceptions, and their payroll shall be assigned to Classification 8810, *Clerical Office Employees*.~~

c. Definition of "Surface Employees" as used in Classification 1124, *Mining—underground—surface employees*

~~Only those employees of underground mines whose work is exclusively on the surface shall be assigned to Classification 1124. These employees include, but are not limited to, hoist engineers, top persons, blacksmiths, compressor persons, and employees engaged in land clearing and the construction and maintenance of all buildings, roads, ditches and flumes.~~

d. Shops

~~Machine shop, blacksmith shop, sawmill or mine car repair shop shall be assigned to Classification 1122, *Mining—surface*, or Classification 1124, *Mining—underground—surface employees*, depending upon the type of mine.~~

* * * * *

Recommendation

Amend Section VII, *Standard Classifications*, Rule 1, *Classification Section*, subrule a, *Industry Groups*, to eliminate Mining from the list of industry groups as it is no longer necessary with the elimination of Classifications 1123 and 1124, resulting in some mining operations falling outside of this industry grouping, as there are only two mining classifications remaining.

PROPOSED

Section VII – Standard Classifications

1. Classification Section

This section contains an alphabetical listing of classifications that describe most occupations, employments, industries and businesses. The classifications are organized as follows:

a. Industry Groups

Some classifications are grouped alphabetically under industry groupings to assist users in identifying and assigning classifications within similar industries. Construction-related classifications are listed in Appendix I, *Construction and Erection Classifications*. The following other industry groups are incorporated into the classifications listed in Rule 2, *Standard Classifications*, below:

- (1) Aircraft Operation
- (2) Automotive Industry
- (3) Electronics Industry
- (4) Farms
- (5) Food Packaging and Processing
- (6) Health and Human Services
- (7) Metal Working Classifications
- ~~(8) Mining~~
- ~~(9)~~(8) Municipal, State or Other Public Agencies
- ~~(10)~~(9) Petroleum Industry
- ~~(11)~~(10) Plastic Products Manufacturing
- ~~(12)~~(11) Printing, Publishing and Duplicating
- ~~(13)~~(12) Property Management/Operation
- ~~(14)~~(13) Recycling and Refuse Management
- ~~(15)~~(14) Sign Industry
- ~~(16)~~(15) Stores

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Recommendation

Amend Classification 6011, *Dam Construction*, for consistency with other proposed changes.

PROPOSED

DAM CONSTRUCTION – all operations – including dam repair, alteration, seismic retrofitting and demolition 6011

This classification applies to the construction ~~and/or~~ repair of dams, including but not limited to concrete ~~and/or~~ earth filled dams.

This classification includes the construction of access roads in connection with dam construction.

Tunneling shall be separately classified as 6251, *Tunneling or Underground Mining*.

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Recommendation

Amend Classification 1624(2), *Excavation – rock*, for consistency with other proposed changes.

PROPOSED

EXCAVATION – rock – no tunneling 1624(2)

This classification applies to rock excavation in connection with construction projects.

Crushing operations shall be separately classified.

Tunneling shall be classified as 6251, *Tunneling or Underground Mining*.

Rock quarrying operations shall be classified as 1624(1), *Quarries*.

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Recommendation

Amend Classification 1452, *Mining – ore milling*, to provide direction as to how related operations should be classified.

PROPOSED

MINING

~~Refer to Section IV, Special Industry Classification Procedures, Rule 5, Mining.~~

MINING – ore milling – including sample analysis, crushing, concentration and separation **1452**

This classification applies to the processing of ore for the purpose of recovering metals ~~and~~or minerals, including but not limited to gold, silver, nickel, graphite, coke, zinc and iron.

Surface mining (open pit method) of ores or minerals shall be separately classified as 1122, *Mining – surface*.

Underground mining operations shall be separately classified as 6251, *Tunneling or Underground Mining*.

Smelting, sintering, refining or alloying operations shall be classified as 1438, *Smelting, Sintering, Refining or Alloying*.

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Recommendation

Amend Classification 1122, *Mining – surface*, for consistency with other proposed changes.

PROPOSED

MINING

~~Refer to Section IV, *Special Industry Classification Procedures*, Rule 5, *Mining*.~~

MINING – surface – no shafts, tunnels, or drifts – all employees **1122**

This classification applies to surface mining (open pit method) of ores ~~and~~or minerals, including but not limited to gold, borax, graphite, gypsum and perlite. This classification includes all activities involved in the construction or operation of the mine, including but not limited to the construction of buildings, roads, water systems, power lines or tramways; the installation, operation or maintenance of machinery or equipment; the operation of commissaries; and blasting when performed by the mine operator. This classification includes mining engineers engaged in geophysical exploration, surveying ~~and~~or mapping of sites.

~~Subsequent to~~Ore milling operations shall be separately classified as 1452, *Mining – ore milling*.

Underground mining operations shall be classified as 1123, ~~*Mining – underground – with shafts, tunnels or drifts; all employees with exposure to underground mining operations*~~, and 1124, ~~*Mining – underground – surface employees*~~6251, *Tunneling or Underground Mining*.

Rock quarrying operations shall be classified as 1624(1), *Quarries*.

Blasting operations performed on a fee basis ~~are~~shall be classified as 1330, *Blasting*.

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Recommendation

Eliminate Classification 1124, *Mining – underground – surface employees*, due to its low statistical credibility and reassign the operations described by this classification to Classification 6251, *Tunneling or Underground Mining*.

PROPOSED

MINING

Refer to Section IV, Special Industry Classification Procedures, Rule 5, Mining.

MINING—underground—surface employees

1124

~~This classification applies to surface employees, including mining engineers engaged in geophysical exploration, surveying and mapping of sites, of employers engaged in the underground extraction of ore and minerals, including but not limited to gold, borax, graphite, gypsum and perlite. This classification includes but is not limited to the following aboveground operations: installation, operation or maintenance of surface machinery or equipment; operation of commissaries and preparation of explosives.~~

~~This classification does not apply to any employee who is required to go underground at any time. Employees with exposure to underground mining operations shall be classified as 1123, *Mining—underground—with shafts, tunnels or drifts; all employees with exposure to underground mining operations*.~~

~~Surface mining operations shall be classified as 1122, *Mining—surface*.~~

~~Ore milling shall be separately classified as 1452, *Mining—ore milling*.~~

~~Also refer to companion Classification 1123, *Mining—underground—with shafts, tunnels or drifts; all employees with exposure to underground mining operations*.~~

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Recommendation

Eliminate Classification 1123, *Mining – underground – with shafts, tunnels or drifts; all employees with exposure to underground mining operations*, due to its low statistical credibility, and reassign the operations described by this classification to Classification 6251, *Tunneling or Underground Mining*.

PROPOSED

MINING

Refer to Section IV, Special Industry Classification Procedures, Rule 5, Mining.

MINING—underground—with shafts, tunnels or drifts; all employees with exposure to underground mining operations

1123

~~This classification applies to employers engaged in the underground extraction of ores and minerals, including but not limited to gold, borax, graphite, gypsum and perlite. This classification includes all underground operations, including but not limited to the drilling of shafts, tunnels or drifts; the erection of shoring and supports; the construction of underground tramways; and the installation, operation and maintenance of underground equipment or~~

machinery. This classification includes all employees, including mining engineers engaged in geophysical exploration, surveying and mapping of sites, who are required to go underground at any time.

Also refer to companion Classification 1124, ~~Mining – underground – surface employees.~~

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Recommendation

Eliminate the cross reference to Classification 1452, *Mining – ore milling*, for consistency with other proposed changes.

PROPOSED

ORE MILLING

See Mining.

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Recommendation

Amend Classification 1624(1), *Quarries*, for consistency with other proposed changes.

PROPOSED

QUARRIES – including all employees engaged in installation of machinery and construction, repair and maintenance of all buildings, structures or equipment 1624(1)

This classification applies to open quarries for the removal of rock, including but not limited to granite, limestone, sandstone and soapstone.

This classification includes stone cutting in quarries or hauling material from the quarry to a stone crusher operated by the quarry.

Drilling or blasting performed in connection with the employer's quarry operations shall be classified in accordance with Section III, Rule 5, *General Inclusions*.

Crushing operations shall be separately classified.

Rock excavation in connection with construction projects shall be classified as 1624(2) *Excavation – rock*.

Surface mining (open pit method) of ores or minerals shall be classified as 1122, *Mining – surface*.

Underground mining shall be classified as 1123, ~~Mining – underground – with shafts, tunnels or drifts; all employees with exposure to underground mining operations~~, and 1124, ~~Mining – underground – surface employees~~ 6251, Tunneling or Underground Mining.

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Recommendation

Amend Classification 6251, *Tunneling*, to include underground mining operations, to provide direction as to how related operations should be classified and for consistency with other proposed changes.

PROPOSED

TUNNELING OR UNDERGROUND MINING – all work to completion employees –including lining **6251**

This classification applies to the construction of tunnels ~~and~~ caves and includes the ~~incidental~~ installation of concrete lining, electrical wiring ~~and~~ plumbing. This classification also applies to tunneling in connection with dam construction or street or road construction, including tunneling underneath roadways or railroads by hydraulic jacking pipe exceeding 6' in diameter through the earth. ~~This classification also applies to tunneling in connection with dam construction and street or road construction.~~

~~Hydraulic jacking pipe not exceeding 6' in diameter through the earth to produce sewer, gas or water lines shall be separately classified.~~ This classification also applies to the operation of underground mines for the extraction of ores or minerals, including but not limited to gold, borax, graphite, gypsum and perlite. This classification includes all underground and aboveground operations, including but not limited to the drilling of shafts, tunnels or drifts; the erection of shoring or supports; the construction of underground tramways; and the installation, operation or maintenance of underground or above-ground equipment or machinery. This classification includes mining engineers engaged in surveying, mapping or geophysical exploration of sites.

Surface mining (open pit method) operations shall be classified as 1122, *Mining – surface*.

Ore milling operations shall be separately classified as 1452, *Mining – ore milling*.

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Recommendation

Amend Section VIII, *Abbreviated Classifications*, for consistency with other proposed changes.

PROPOSED

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- 1123 Mining ~~underground~~
- 1124 Mining ~~underground~~ ~~surface employees~~
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- 6251 Tunneling/Underground Mining
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Recommendation

Amend Appendix I, *Construction and Erection Classifications*, for consistency with other proposed changes.

PROPOSED

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6251 Tunneling/Underground Mining
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